IN THE TITLE:

Please change the title to -- MULTIPLE STAGE PUMP WITH MULTIPLE EXTERNAL CONTROL VALVES--.

IN THE ABSTRACT:

Please amend the Abstract as follows:

A multiple stage pump having valves upstream from each respective pump in a same line thereof. The respective lines then merge into a common line. The multiple stage pump prevents pressure variations ~~and shot to shot fuel variations~~. The multiple stage pump includes a first pump in a first stage and a second pump in a second stage. At least one valve is upstream from one of the first pump and the second pump in at least one of the first stage and the second stage. A common branch line connects the first stage and the second stage to a common hydraulic system.

IN THE SPECIFICATION:

A marked-up copy of the changes to selected paragraph(s) is provided below. Please replace the originally filed paragraph with the changes as shown in the below marked-up paragraph(s).

Paragraph at page 2, lines 3-18:

However, it is known that fuel economy and other efficiencies can be realized by using variable pump systems. In known variable pump systems, as shown in Figure 1, on/off switching valves 10 (e.g., 3 way/3 position valve) are located in a common rail line 12 for all of the pumps 14. The on/off switching valve 10, shown in an exploded view of Figure 1a, uses ~~three~~ two pumps to provide three different volumes; namely, (i) a

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small pump V_1 for a small flow, (ii) a large pump V_2 for a larger flow and (iii) both pumps together V_1 and V_2 to have a maximum flow. Thus three different volumes are generated when $V_1 < V_2$ (e.g., 5 l/m, 10 l/m and 15 l/m). This arrangement, though, creates pressure peaks in the rail line 12 as well as in the pump 14, itself. Also, by using the on/off switching valves 10 in the common rail line 12, both sides (pump and rail sides) will have difficulty with the pressure peaks. That is, the 3 way/3 position valve is a "digital" volume shift which has very little influence to reduce peek pressures during switching. Thus, the pump side must handle the additional load and will have a problem with the resultant durability. Also, with these systems, on the rail side, the pressure peaks change the rail dynamic which, in turn, causes injection variations. The additional volume peak must be handled by the rail pressure regulator valve.

Paragraph at page 5, lines 10-24:

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Referring now to Figure 2, a first embodiment of the multiple stage pump is provided. In this embodiment, the multiple stage pump is generally depicted as reference numeral 20 and includes pumps 22a and 22b located on respective branches 24a and 24b of the multiple stage pump system 20 of the present invention. The pumps 22a, 22b are preferably arranged in parallel, and may be associated with respective valve and reservoir systems 26a, 26b. In embodiments, the valve and reservoir systems 26a, 26b may ~~includes~~ include a single reservoir or, alternatively, may be eliminated without unduly affecting the control of the present invention. Pressure control valves 28a, 28b (with respective reservoirs "R" or, in embodiments, the same reservoir) are positioned upstream of the respective pumps 22a, 22b, associated with each respective branch 24a, 24b of the multiple stage pump system 20. The pressure control ~~valve~~ valves, in alternative embodiments, may be

substituted with flow valves, on/off valves, or other pressure or relief control valves or a combination thereof. It should be noted that the control valves do not appear to be as sensitive to cold start behavior as the on/off valves.

Paragraph spanning pages 5 and 6:

Still referring to Figure ~~1~~ 2, check valves 30a and 30b are located upstream of the control valves 22a, 22b on each respective branch 24a, 24b. A node 32, positioned between the respective check valves 30a, 32b, merges the branches 24a, 24b into a single or common branch rail line 34. The common branch line 34 preferably provides working fluid to a fuel injector. A valve (pressure control valve) 38 with reservoir "R" may optionally be provided on a line 40, branching from the common branch rail line 34. The valve and reservoir system may be a rail pressure regulator valve such as an Injection Pressure Regulator (IPR). The arrangement of Figure 2 reduces or eliminates pressure peaks throughout the multiple stage pump 20, and further reduces or eliminates injector to injector variation caused by the system.

Page 9, first full paragraph:

~~Having thus described our invention, what we claim as new and desire to secure by Letters Patent is~~ I claim as follows: